

## General

### Guideline Title

Delayed child-bearing

### Bibliographic Source(s)

Johnson JA, Tough S. Delayed child-bearing. J Obstet Gynaecol Can. 2012 Jan;34(1):80-93. [101 references] [PubMed](#)

### Guideline Status

This is the current release of the guideline.

## Recommendations

### Major Recommendations

The quality of evidence (I-III) and classification of recommendations (A-L) are defined at the end of the "Major Recommendations."

#### Increased Use of Reproductive Technology

1. Women who delay child-bearing are at increased risk of infertility. Prospective parents, especially women, should know that their fecundity and fertility begin to decline significantly after 32 years of age. Prospective parents should know that assisted reproductive technologies cannot guarantee a live birth or completely compensate for age-related decline in fertility. (II-2A)
2. A fertility evaluation should be initiated after 6 months of unprotected intercourse without conception in women 35 to 37 years of age, and earlier in women >37 years of age. (II-2A)

#### Advanced Paternal Age

3. Prospective parents should be informed that semen quality and male fertility deteriorate with advancing age and that the risk of genetic disorders in offspring increases. (II-2A)

#### Maternal Age-Related Risk of Genetic Conditions and Congenital Anomalies

4. Women  $\geq 35$  years of age should be offered screening for fetal aneuploidy and undergo a detailed second trimester ultrasound examination to look for significant fetal birth defects (particularly cardiac defects). (II-1A)

#### Impact of Maternal Age on Pregnancy Outcome

5. Delayed child-bearing is associated with increased obstetrical and perinatal complications. Care providers need to be aware of these complications and adjust obstetrical management protocols to ensure optimal maternal and perinatal outcomes. (II-2A)
6. All adults of reproductive age should be aware of the obstetrical and perinatal risks of advanced maternal age so they can make informed

decisions about the timing of child-bearing. (II-2A)

## Summary

7. Strategies to improve informed decision-making by prospective parents should be designed, implemented, and evaluated. These strategies should provide opportunity for adults to understand the potential medical, social, and economic consequences of childbearing throughout the reproductive years. (III-B)
8. Barriers to healthy reproduction, including workplace policies, should be reviewed to optimize the likelihood of healthy pregnancies. (III-C)

## Definitions:

### Quality of Evidence Assessment\*

I: Evidence obtained from at least one properly randomized controlled trial

II-1: Evidence from well-designed controlled trials without randomization

II-2: Evidence from well-designed cohort (prospective or retrospective) or case-control studies, preferably from more than one centre or research group

II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category.

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

### Classification of Recommendations†

A. There is good evidence to recommend the clinical preventive action.

B. There is fair evidence to recommend the clinical preventive action.

C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making.

D. There is fair evidence to recommend against the clinical preventive action.

E. There is good evidence to recommend against the clinical preventive action.

L. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making.

\*Adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

†Adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

## Clinical Algorithm(s)

None provided

## Scope

### Disease/Condition(s)

- Delayed child-bearing
- Infertility, pregnancy complications, and adverse pregnancy outcomes associated with advanced maternal and paternal age
- Congenital anomalies and genetic disorders associated with advanced maternal and paternal age

## Guideline Category

Counseling

Evaluation

Management

Screening

## Clinical Specialty

Family Practice

Medical Genetics

Nursing

Obstetrics and Gynecology

## Intended Users

Advanced Practice Nurses

Health Care Providers

Nurses

Patients

Physician Assistants

Physicians

## Guideline Objective(s)

To provide an overview of delayed child-bearing and to describe the implications for women and health care providers

## Target Population

- Canadian women of advanced maternal age
- Canadian men of advanced paternal age

## Interventions and Practices Considered

1. Counselling women on risk of infertility with delayed child-bearing and limits of assisted reproductive technology (ART)
2. Fertility evaluation after 6 months of unprotected intercourse without conception in women 35 to 37 years of age and earlier in women >37 years of age
3. Counselling men on risks of deteriorating semen quality and genetic disorders in offspring with advanced paternal age
4. Screening for fetal aneuploidy and detailed second trimester ultrasound examination for significant fetal birth defects in women  $\geq 35$  years of age
5. Counselling women on increased risks of obstetrical and perinatal complications with advanced maternal age
6. Implementation of improved strategies for informed decision-making by prospective parents
7. Review of barriers to healthy reproduction, including workplace policies

## Major Outcomes Considered

- Risk of infertility, maternal comorbidity, pregnancy and birth complications, and maternal and fetal morbidity and mortality with advanced maternal age
- Success rates of assisted reproductive technology (ART)
- Risk of congenital anomalies and genetic disorders with advanced paternal age

## Methodology

### Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Searches of Electronic Databases

### Description of Methods Used to Collect/Select the Evidence

Studies published between 2000 and August 2010 were retrieved through searches of PubMed and the Cochrane Library using appropriate key words (delayed child-bearing, deferred pregnancy, maternal age, assisted reproductive technology, infertility, and multiple births) and Medical Subject Headings (MeSH) terms (maternal age, reproductive behaviour, fertility). The Internet was also searched using similar key words, and national and international medical specialty societies were searched for clinical practice guidelines and position statements.

### Number of Source Documents

Not stated

### Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

### Rating Scheme for the Strength of the Evidence

Quality of Evidence Assessment\*

I: Evidence obtained from at least one properly randomized controlled trial

II-1: Evidence from well-designed controlled trials without randomization

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II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category.

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

\*Adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

### Methods Used to Analyze the Evidence

Systematic Review

### Description of the Methods Used to Analyze the Evidence

Data were extracted based on the aims, sample, authors, year, and results. The quality of evidence was rated using the criteria described in the Report of the Canadian Task Force on Preventive Health Care (see the "Rating Scheme for the Strength of the Evidence" and the "Rating Scheme for the Strength of the Recommendations" fields).

## Methods Used to Formulate the Recommendations

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

Not stated

## Rating Scheme for the Strength of the Recommendations

Classification of Recommendations<sup>†</sup>

A. There is good evidence to recommend the clinical preventive action.

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<sup>†</sup>Adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

## Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

## Method of Guideline Validation

Internal Peer Review

## Description of Method of Guideline Validation

This Committee Opinion has been prepared by the Genetics Committee, reviewed by the Reproductive Endocrinology and Infertility Committee, and approved by the Executive and Council of the Society of Obstetricians and Gynaecologists of Canada (SOGC).

## Evidence Supporting the Recommendations

### Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

## Benefits/Harms of Implementing the Guideline Recommendations

## Potential Benefits

- Improved public understanding of the risks associated with child-bearing at advanced maternal and paternal age
- Improved public understanding of the potential medical, social, and economic consequences of childbearing throughout the reproductive years

## Potential Harms

Not stated

## Qualifying Statements

### Qualifying Statements

This document reflects emerging clinical and scientific advances on the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Local institutions can dictate amendments to these opinions. They should be well documented if modified at the local level. None of these contents may be reproduced in any form without prior written permission of the Society of Obstetricians and Gynaecologists of Canada (SOGC).

## Implementation of the Guideline

### Description of Implementation Strategy

An implementation strategy was not provided.

### Implementation Tools

Foreign Language Translations

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

## Institute of Medicine (IOM) National Healthcare Quality Report Categories

### IOM Care Need

Staying Healthy

### IOM Domain

Patient-centeredness

Timeliness

## Identifying Information and Availability

## Bibliographic Source(s)

Johnson JA, Tough S. Delayed child-bearing. J Obstet Gynaecol Can. 2012 Jan;34(1):80-93. [101 references] [PubMed](#)

## Adaptation

Not applicable: The guideline was not adapted from another source.

## Date Released

2012 Jan

## Guideline Developer(s)

Society of Obstetricians and Gynaecologists of Canada - Medical Specialty Society

## Source(s) of Funding

Society of Obstetricians and Gynaecologists of Canada

## Guideline Committee

Genetics Committee

## Composition of Group That Authored the Guideline

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## Financial Disclosures/Conflicts of Interest

Disclosure statements have been received from all members of the committee.

## Guideline Status

This is the current release of the guideline.

## Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the [Society of Obstetricians and Gynaecologists of Canada Web site](#) . Also available in French from the [SOGC Web site](#) .

Print copies: Available from the Society of Obstetricians and Gynaecologists of Canada, La société des obstétriciens et gynécologues du Canada (SOGC) 780 promenade Echo Drive Ottawa, ON K1S 5R7 (Canada); Phone: 1-800-561-2416.

## Availability of Companion Documents

None available

## Patient Resources

None available

## NGC Status

This NGC summary was completed by ECRI Institute on April 11, 2012. The information was verified by the guideline developer on May 10, 2012.

## Copyright Statement

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